

$$3z^2 + 24z + 45$$

$$\underline{3z^2 + 9z} + \underline{15z + 45}$$

$$3z(\underline{z+3}) + 15(\underline{z+3})$$

I will accept this $\rightarrow (z+3)(\underline{3z+15})$

$$\boxed{3(z+3)(z+5)}$$

$$\underline{9} \cdot \underline{15} = 135$$

$$\underline{9} + \underline{15} = 24$$